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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,571	09/26/2001	Peter Wagner	0002.P3.0.USN	5686

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EXAMINER

YANG, NELSON C

ART UNIT	PAPER NUMBER
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1641

DATE MAILED: 09/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/966,571

Applicant(s)

WAGNER, PETER

Examiner

Nelson Yang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 7 and 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election of group I, claims 1-6 in Paper No. 10 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "wetable" in claims 1, 2, 4, 5 is used by the claim to mean both "hydrophobic" and "hydrophilic", while the accepted meaning is "capable of being wetted, or being soaked in liquid." The term is indefinite because the specification does not clearly redefine the term. Furthermore, the applicant cannot define the term in such a manner as to make the term repugnant to its original meaning.

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5. The term "wetable" in claim 1 is being used as a relative term which renders the claim indefinite. The term "wetable" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Furthermore, it is unclear how there can be different degrees of "wetable states". This also applies to the use of "wetable states" throughout claims 2, 4 and 5.

6. Regarding claim 2, the phrase "activated by to impart" renders the claim indefinite. The phrase as written suggests that applicant meant to indicate how the convertible functional groups were to be activated, but did not do so, rendering the claim ambiguous and unclear.

7. Claim 4 is indefinite in that it states that the convertible functional groups comprise a first wettable state moiety attached to the surface through at least one of the convertible functional groups. It is not clear whether applicant is referring to the convertible functional group that the first wettable state moiety is a part of, or by other convertible functional groups. Furthermore, it is not clear how the "at least one of said convertible functional groups" themselves are being attached to the surface.

8. The remainder of the claims are deemed indefinite due to their dependence on an indefinite claim.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-6 rejected under 35 U.S.C. 103(a) as being unpatentable over Fodor et al [US 5,424,186], in view of Wohlstadter et al [US 6,066,448]. Fodor et al teaches an array device comprising a substrate having at least one surface, one or more immobilization regions formed on said known regions of the surface, wherein the immobilization regions are adapted for attaching biomolecules on the surface, and one or more border regions surrounding the immobilization regions (column 2, lines 32-68). Furthermore, Fodor et al does teach the use of regions with a first wettable state and a second wettable state (hydrophobic/hydrophilic layer) on the surface of the substrate using linker molecules. Fodor et al, however, does not specifically specify that the border regions should have a first wettable state and a second wettable state. Wohlstadter et al, however, teaches that patterned hydrophilic/hydrophobic border regions to prevent spreading of applied fluids or gels can be used, allowing fluid samples to be confined to a defined area (column 17, lines 26-60). Therefore it would be obvious for the border regions surrounding the immobilization regions to have a first wettable state and a second wettable state in the array device disclosed by Foder et al, in order to confine fluid samples to a defined area.

11. With respect to claim 2, although Foder et al teaches the use of functional groups to form the border regions (column 2, lines 32-68), Foder et al does not teach that the functional groups when activated impart upon said border regions a second wettable state from the first wettable state. Wohlstadter et al, however, teaches that patterned hydrophilic/hydrophobic regions to prevent spreading of applied fluids or gels can be used, allowing fluid samples to be confined to a defined area (column 17, lines 26-60). Therefore it would be obvious for the border regions

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surrounding the immobilization regions to have a first wettable state and a second wettable state in the array device disclosed by Foder et al, in order to confine fluid samples to a defined area.

12. With respect to claim 3, Foder et al teaches the use of convertible functional groups activated by an activity selected from the group consisting of photocleavage, photoisomerization, catalytic polymerization and photoreaction activities. Specifically, Foder et al teaches the use of lithographic techniques and functional groups protected with photoremovable protective groups (column 2, lines 61-68).

13. With respect to claim 4, Foder et al teaches the use of lithographic techniques and functional groups protected with photoremovable protective groups. Furthermore, Foder et al teaches the use of hydrophilic/hydrophobic linker molecules that are also provided with a photocleavable group at an intermediate position. The photocleavable group is preferably cleavable at a wavelength different from the protective group. This enables removal of the various polymers following completion of the synthesis by way of exposure to the different wavelengths of light. One can also modify the linker molecule with a photocleavable group, which, when removed, will induce a conformational change in the polymer attached to the linker (column 15, lines 48-65).

14. With respect claim 5, the first wettable state moiety can be a dendritic molecule (column 16, lines 25-26). Specific, Foder et al discloses that 'those of skill in the art will also note that more than one functional group can be employed on either the linker or the monomer, i.e., to facilitate the synthesis of branched or "dendritic" structures.'"

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15. With respect to claim 6, Foder et al teaches an array where immobilization regions further comprise biomolecules immobilized within said immobilization region (column 3, lines 1-24).

Double Patenting

16. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 6,406,921 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because a

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person of ordinary skill in the art would understand that the subject matter claimed in the instant application would encompass the subject matter found in the patent.

The subject matter claimed in the instant application is disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: an array device with a substrate having at least one surface (claim 1), one or more immobilization regions formed on said known regions of said surface (claim 1), wherein said immobilization regions are adapted for attaching said biomolecules (proteins) to said surface and one or more border regions formed on said surface surrounding said immobilization regions having a first wettable state (hydrophobic) and a selectively achievable second wettable state (hydrophilic) different from first wettable state, with functional groups (alkyl chains) comprising a first wettable state moiety, where the first wettable state moiety is a dendrimer or dendritic molecule (polyethyleneglycol chain) (claim 3), attached to the surface (claim 1) and activated by an activity selected from the group consisting of photocleavage, photoisomerization, catalytic-polymerization, and photoreaction activities (chemisorption or physisorption) (claim 1). Furthermore, the immobilization regions of the array device comprise biomolecules immobilized within the immobilization regions (claim 1, 3).

Conclusion

17. No claims are allowed.
18. The following references are also cited as art of interest: Chin et al [US 6,197,599 B1], Wohlstadter et al [US 6,140,045 A], Wohlstadter et al [US 6,090,545 A], Wagner et al [US

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6,365,418 B1], Wagner et al [US 6,475,808 B1], Li et al [US 6,406,840 B1]. Kausch et al [US 5,665,582].

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson Yang whose telephone number is 703-305-4508. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long V Le can be reached on 703-305-3399. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

NY


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09/22/03